FIG.1

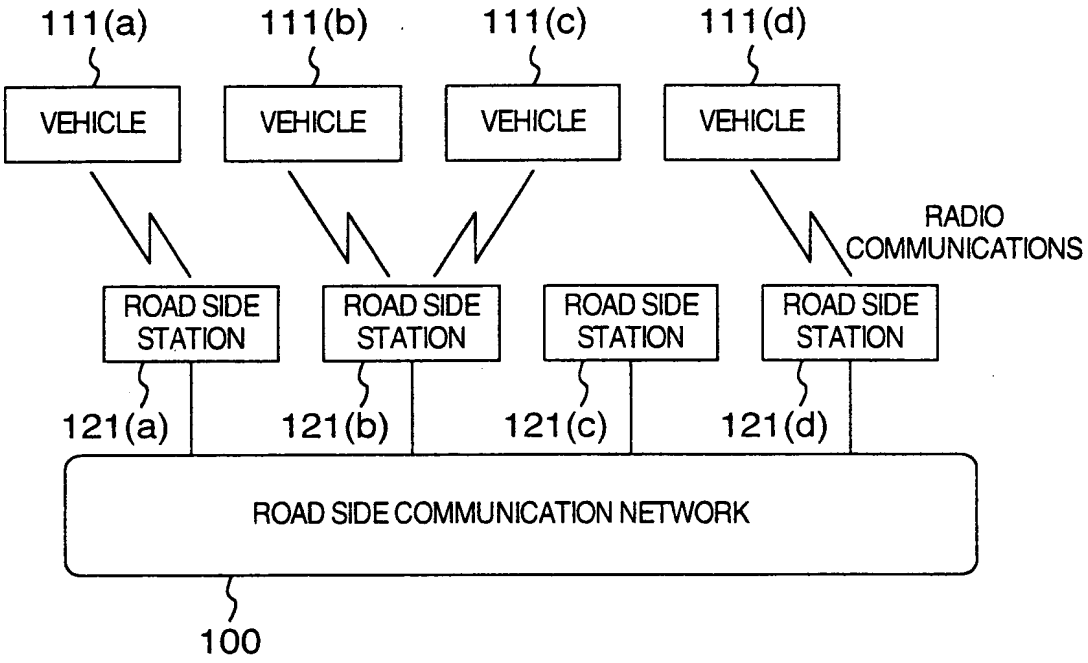
111(a)
111(b)
111(c)
111(d)
VEHICLE
VEHICLE
VEHICLE
VEHICLE
RADIO COMMUNICATIONS
ROAD SIDE STATION
ROAD SIDE STATION
ROAD SIDE STATION
ROAD SIDE STATION
121(a)
121(b)
121(c)
121(d)
ROAD SIDE COMMUNICATION NETWORK
100

FIG.2

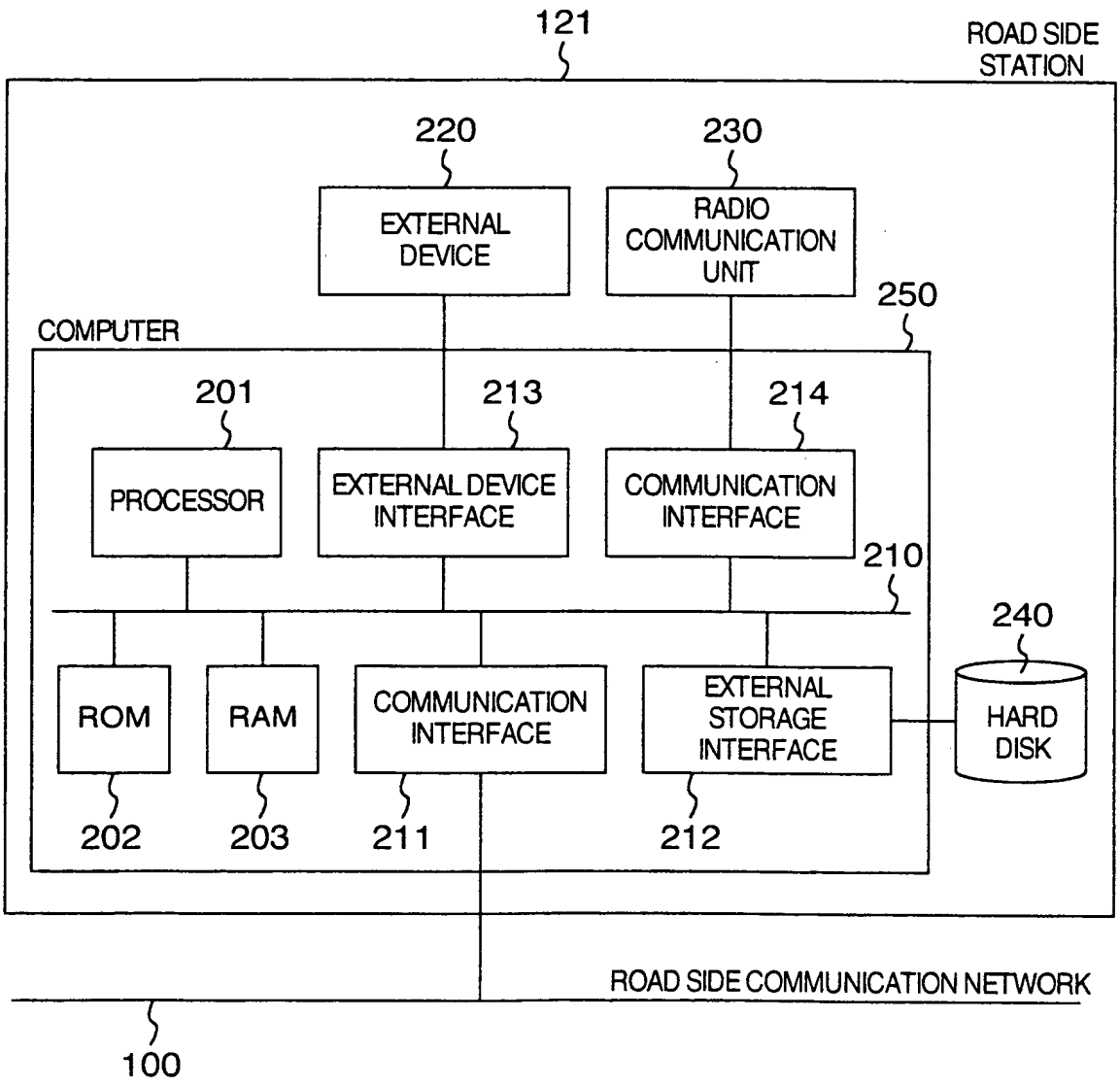

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FIG.3

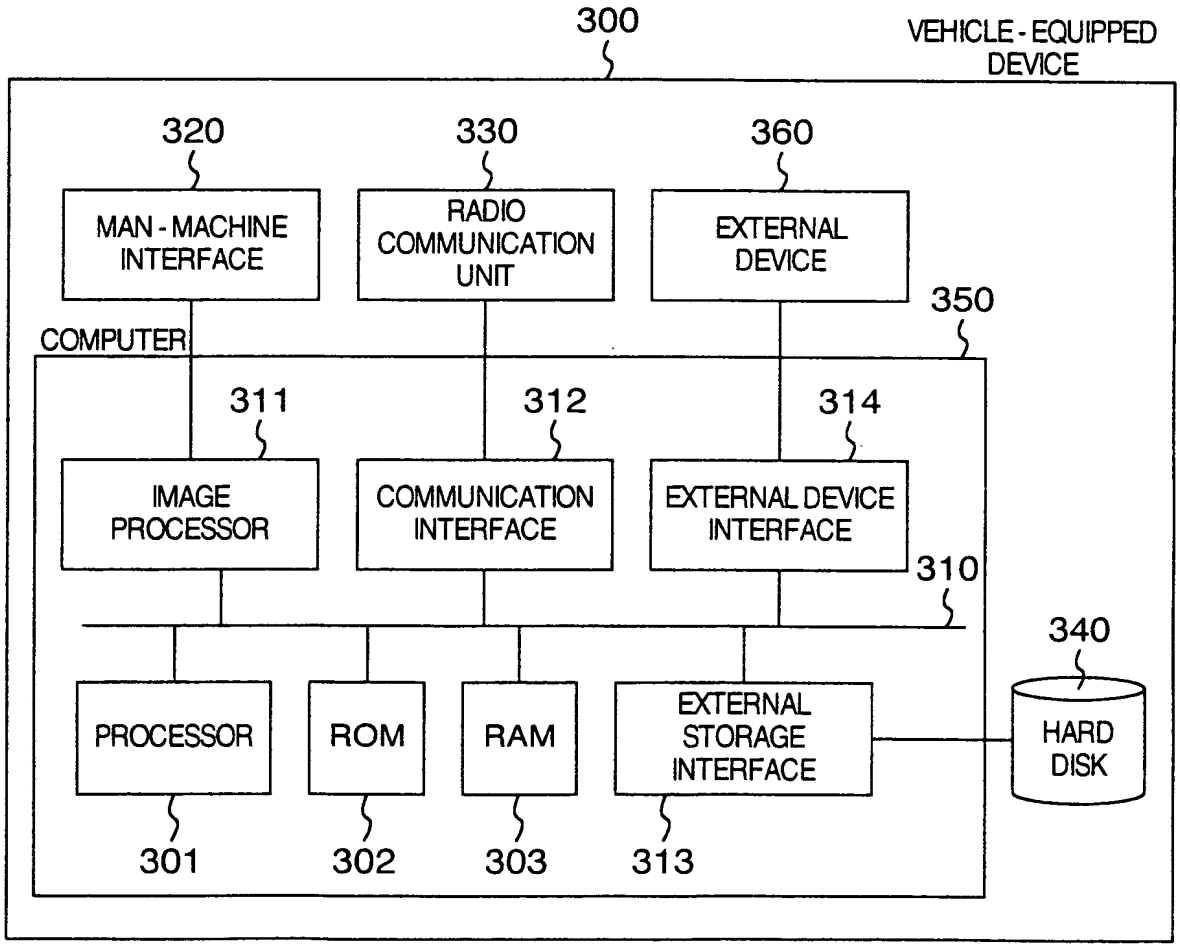
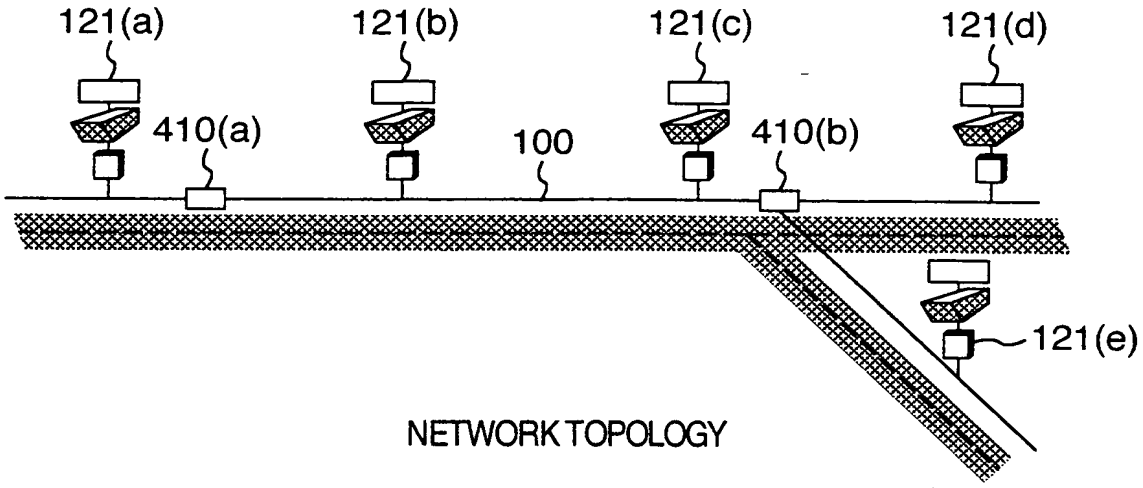
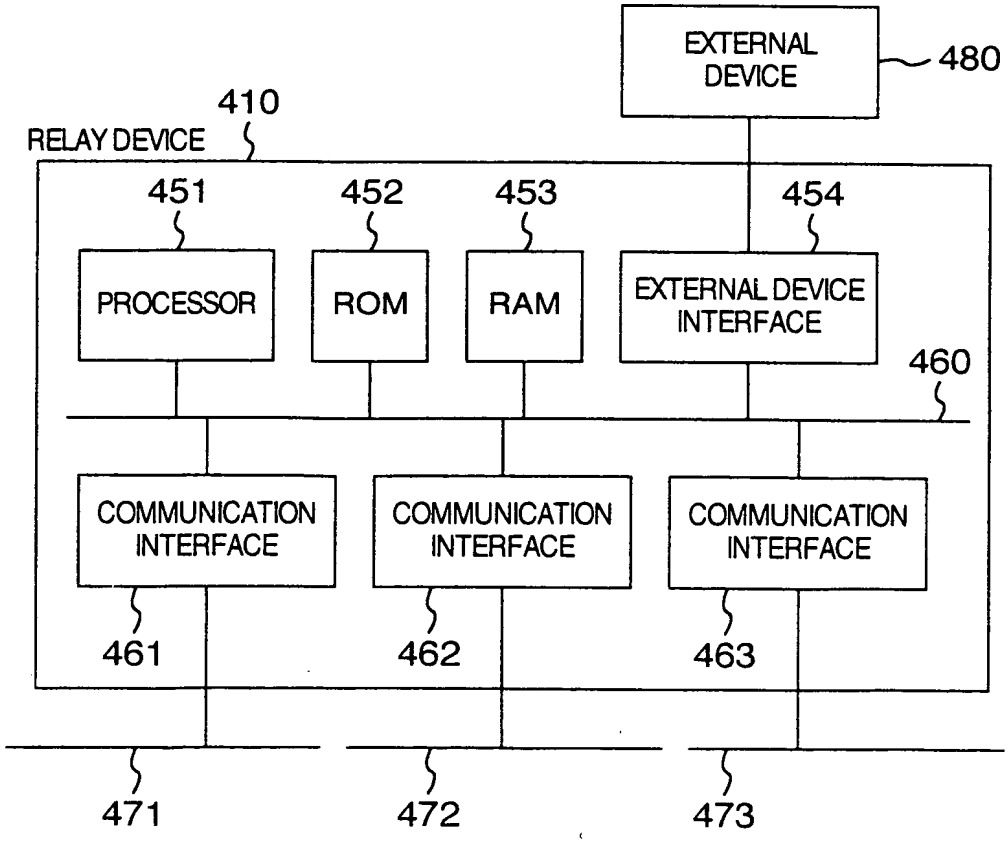

300
VEHICLE - EQUIPPED DEVICE
320
330
360
MAN - MACHINE INTERFACE
RADIO COMMUNICATION UNIT
EXTERNAL DEVICE
350
COMPUTER
311
312
314
IMAGE PROCESSOR
COMMUNICATION INTERFACE
EXTERNAL DEVICE INTERFACE
310
340
PROCESSOR
ROM
RAM
EXTERNAL STORAGE INTERFACE
HARD DISK
301
302
303
313

FIG.4A



NETWORK TOPOLOGY

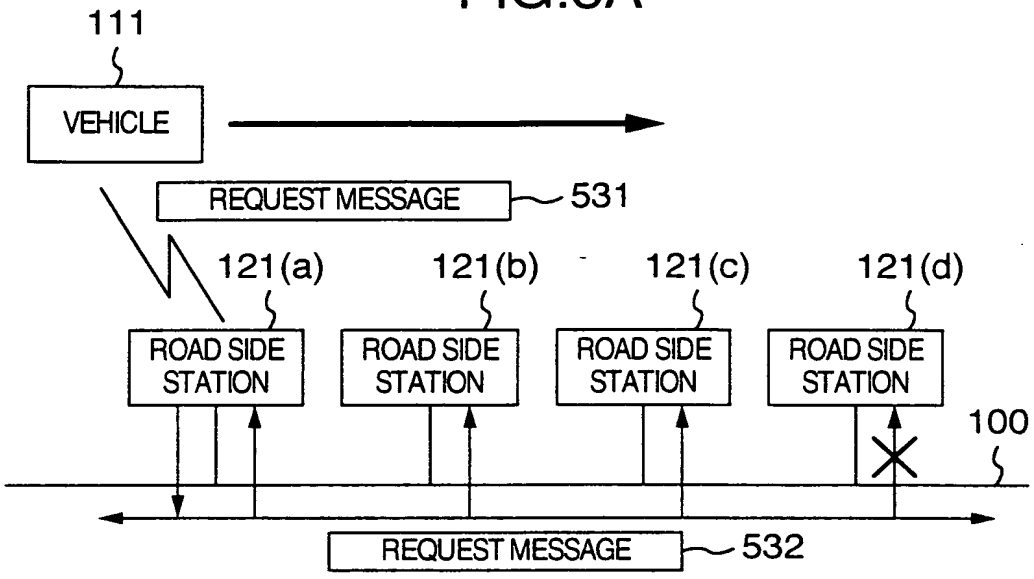
FIG.4B



CONFIGURATION OF RELAY DEVICE

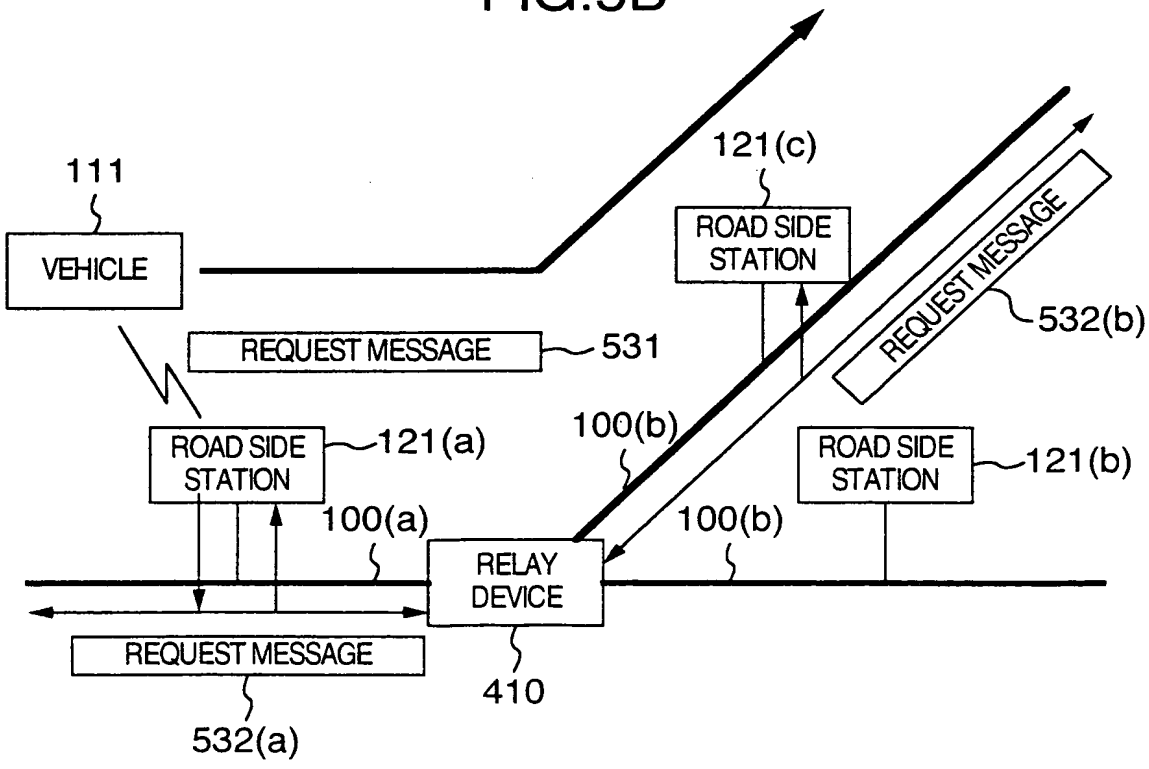
0954450 - 082500

FIG.5A



MESSAGE FLOW 1

FIG.5B



MESSAGE FLOW 2

FIG.6

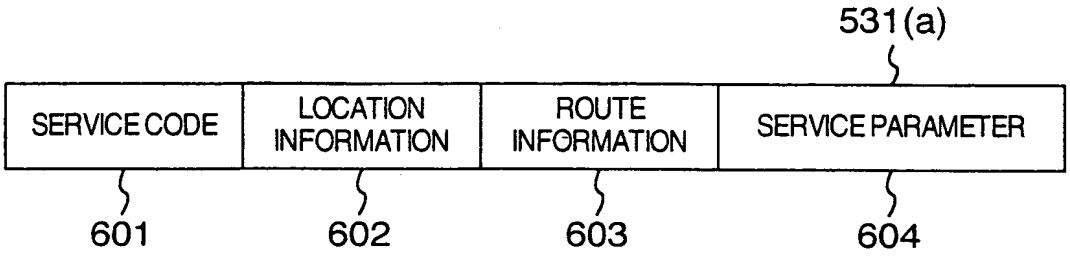

531(a)
SERVICE CODE
LOCATION INFORMATION
ROUTE INFORMATION
SERVICE PARAMETER
601
602
603
604

FIG.7

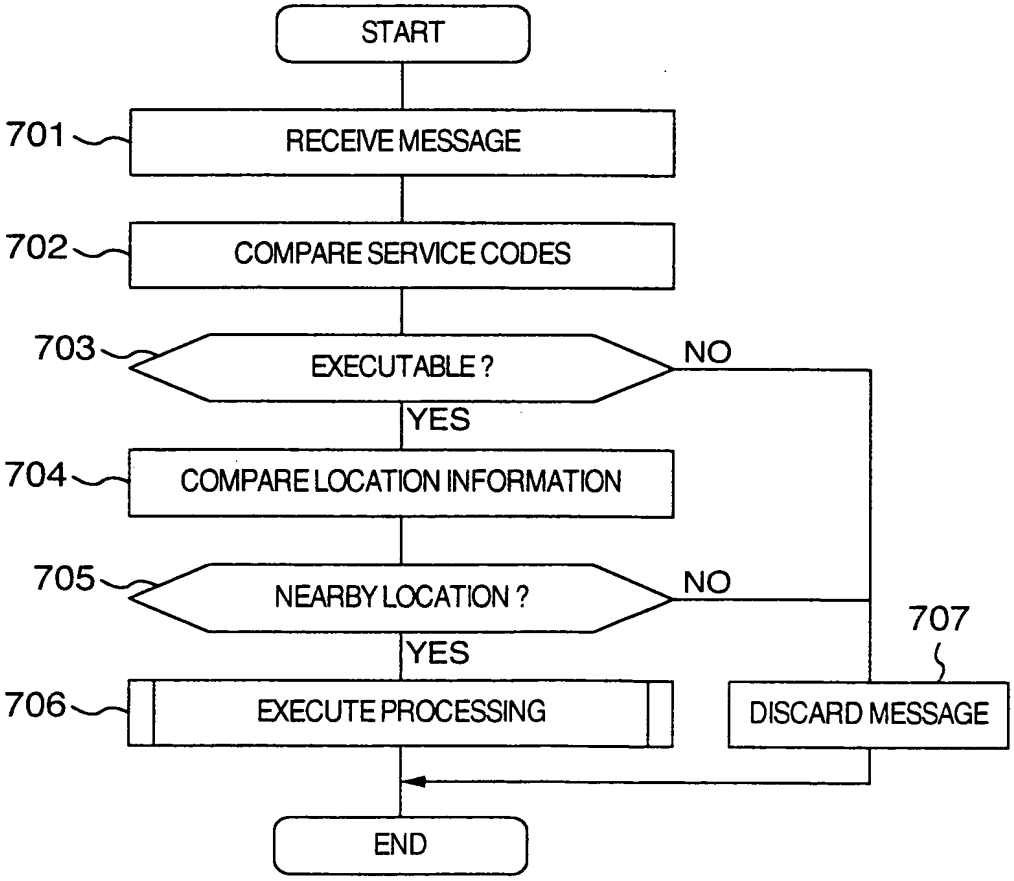
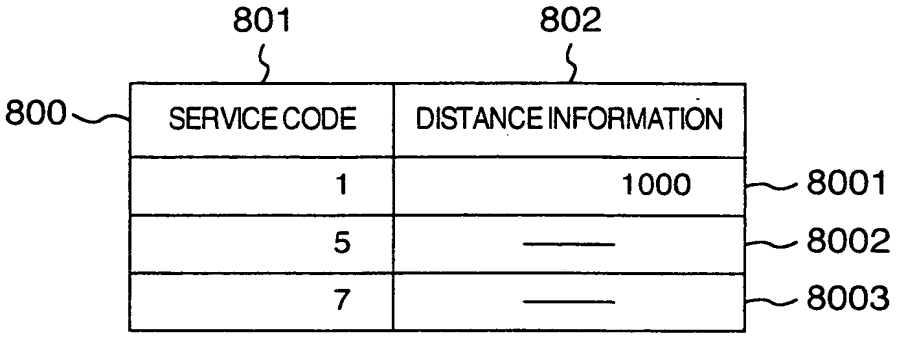
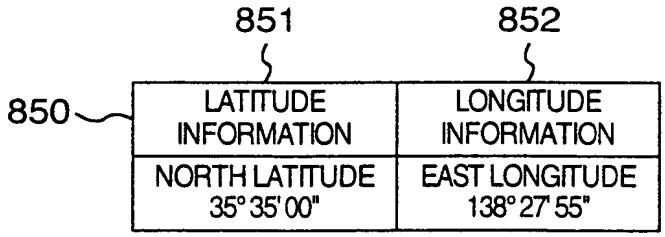

START
701
RECEIVE MESSAGE
702
COMPARE SERVICE CODES
703
EXECUTABLE ?
NO
YES
704
COMPARE LOCATION INFORMATION
705
NEARBY LOCATION ?
NO
YES
707
706
EXECUTE PROCESSING
DISCARD MESSAGE
END

FIG.8A



SERVICE CODE TABLE

FIG.8B



LOCATION INFORMATION TABLE

FIG.9

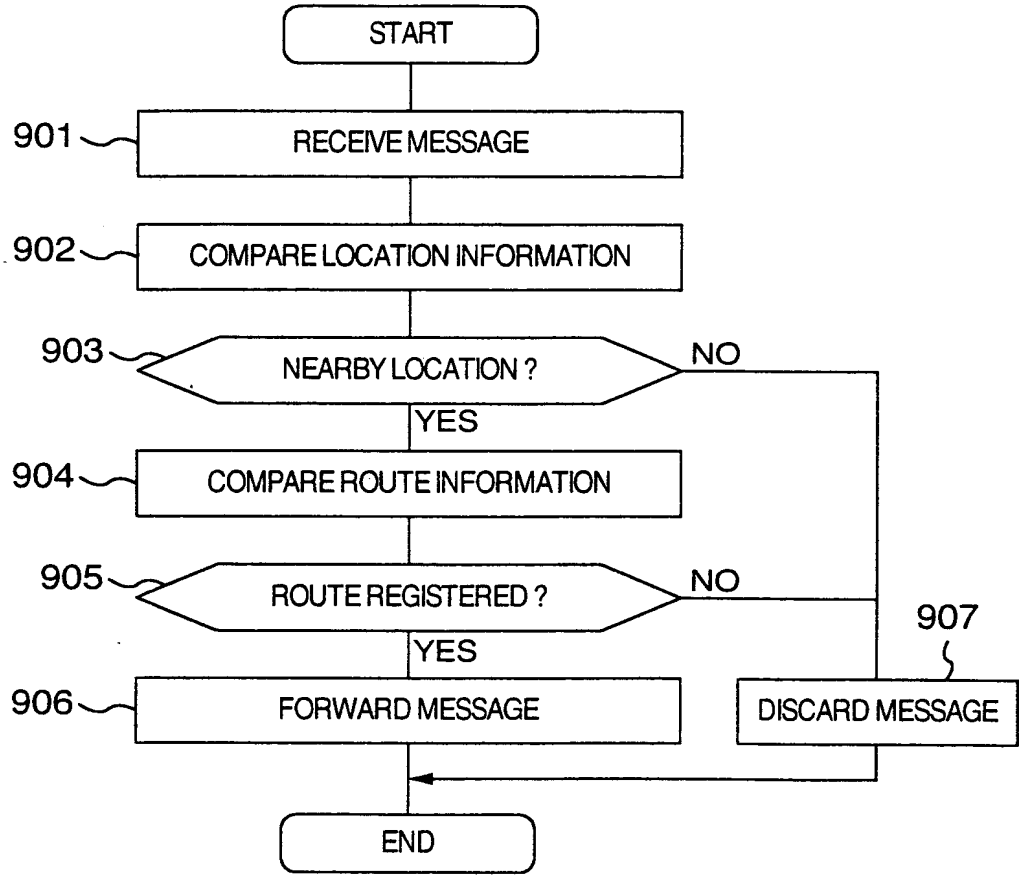


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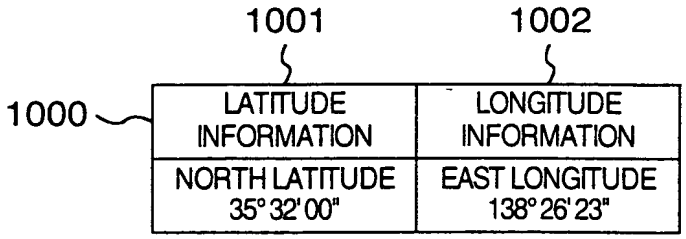
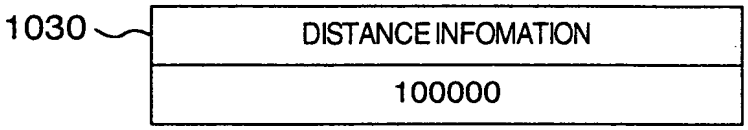
FIG.10A



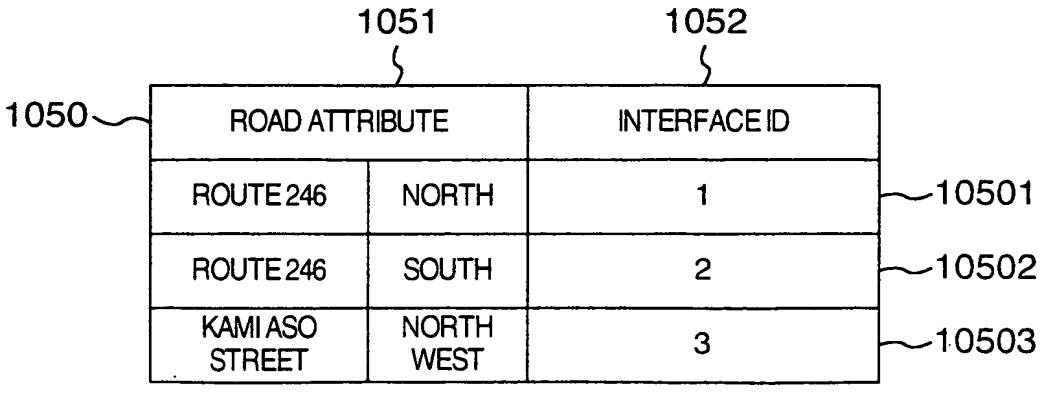
LOCATION INFORMATION TABLE

FIG.10B



DISTANCE INFORMATION TABLE

FIG.10C



ROUTE INFORMATION TABLE

0025508-0025550

FIG.11

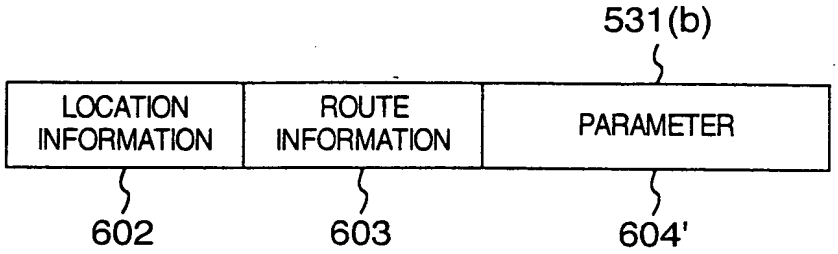

531(b)
LOCATION INFORMATION
ROUTE INFORMATION
PARAMETER
602
603
604'

FIG.12

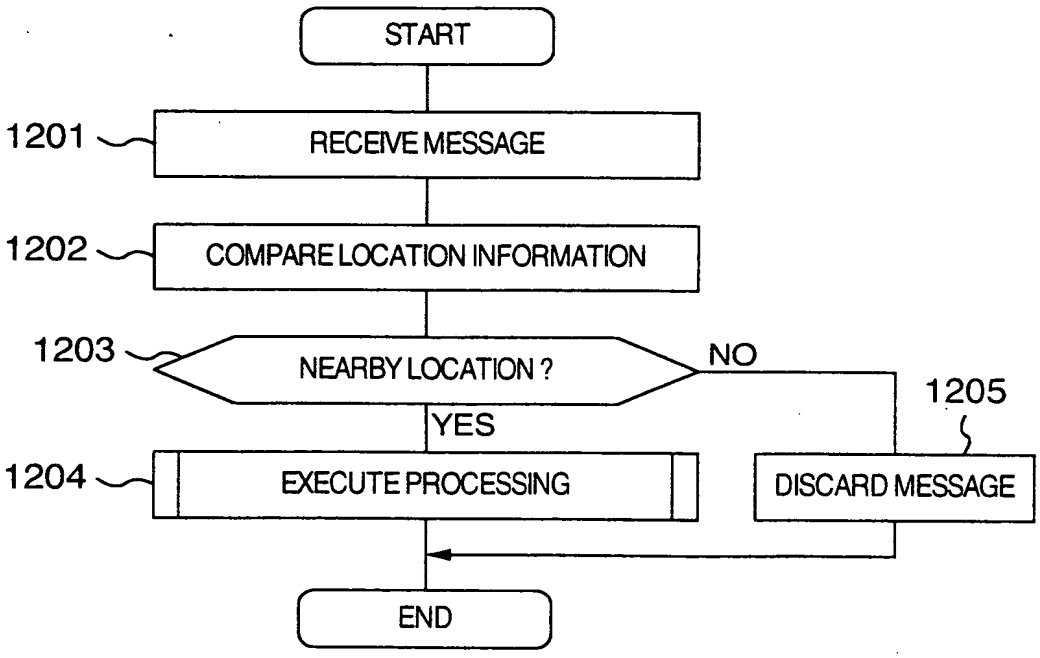

START
1201
RECEIVE MESSAGE
1202
COMPARE LOCATION INFORMATION
1203
NEARBY LOCATION ?
NO
1205
YES
1204
EXECUTE PROCESSING
DISCARD MESSAGE
END

FIG.13

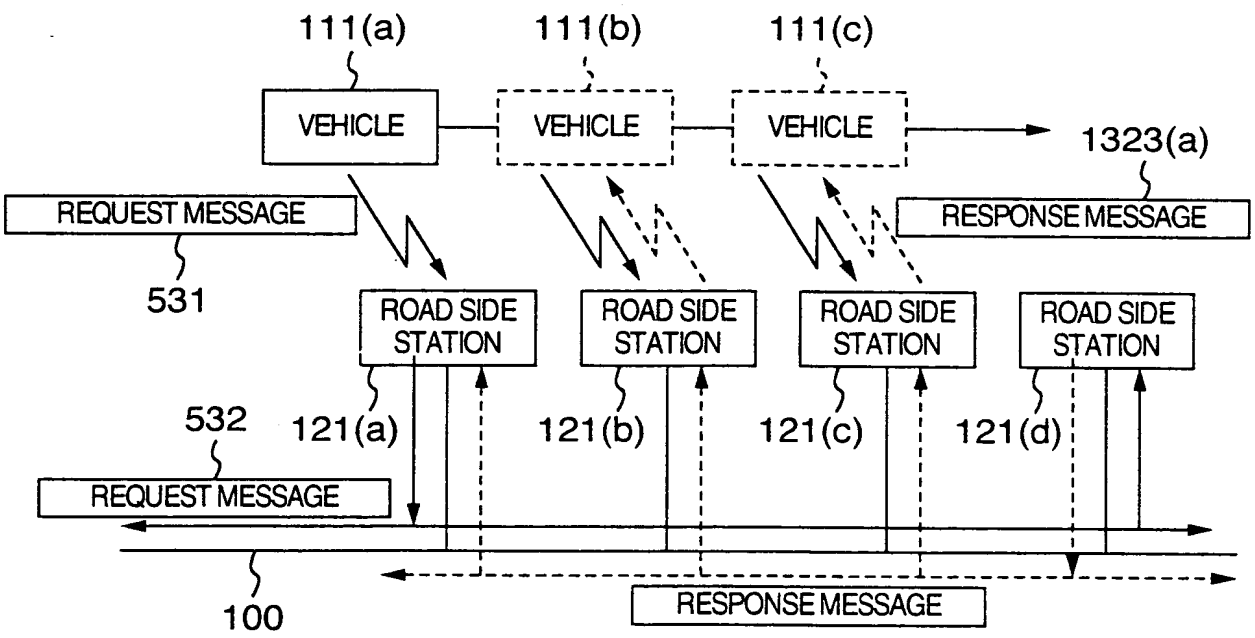

111(a)
111(b)
111(c)
VEHICLE
VEHICLE
VEHICLE
1323(a)
REQUEST MESSAGE
RESPONSE MESSAGE
531
ROAD SIDE STATION
ROAD SIDE STATION
ROAD SIDE STATION
ROAD SIDE STATION
532
121(a)
121(b)
121(c)
121(d)
REQUEST MESSAGE
100
RESPONSE MESSAGE

FIG.14

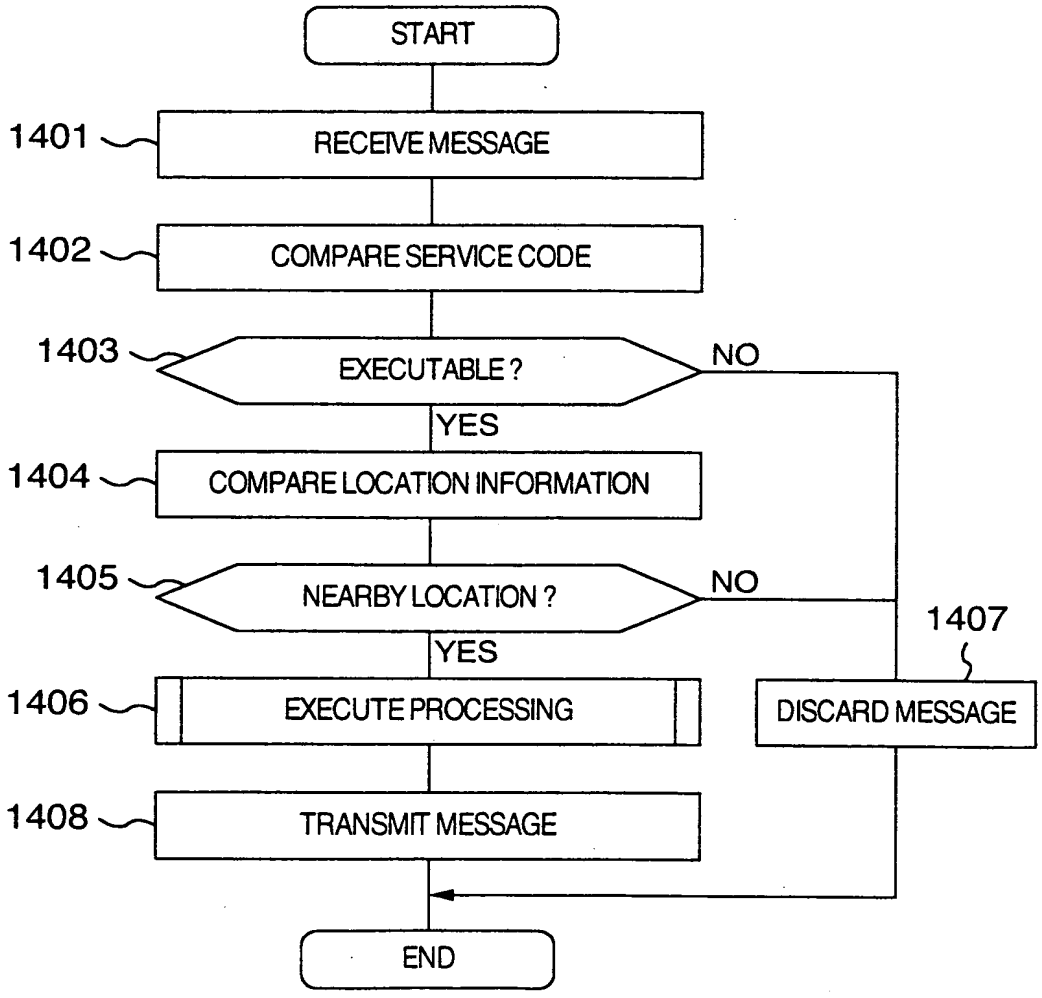

START
1401
RECEIVE MESSAGE
1402
COMPARE SERVICE CODE
1403
EXECUTABLE ?
NO
YES
1404
COMPARE LOCATION INFORMATION
1405
NEARBY LOCATION ?
NO
YES
1407
1406
EXECUTE PROCESSING
DISCARD MESSAGE
1408
TRANSMIT MESSAGE
END

FIG.15A

REQUEST MESSAGE 1

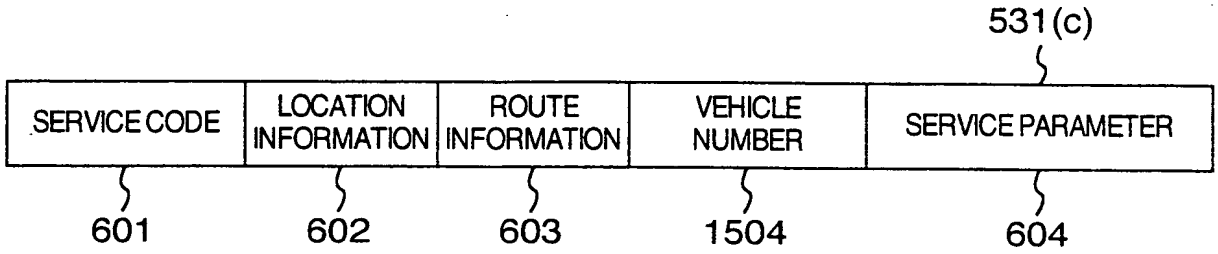


FIG.15B

REQUEST MESSAGE 2

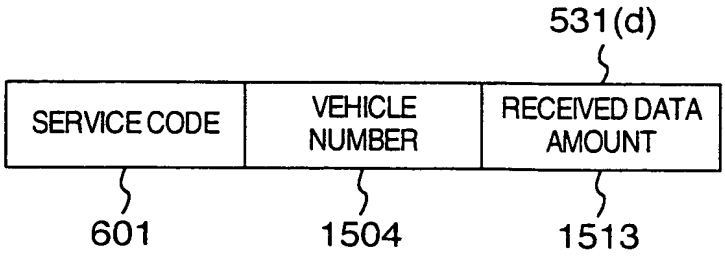


FIG.16A

RESPONSE MESSAGE 1

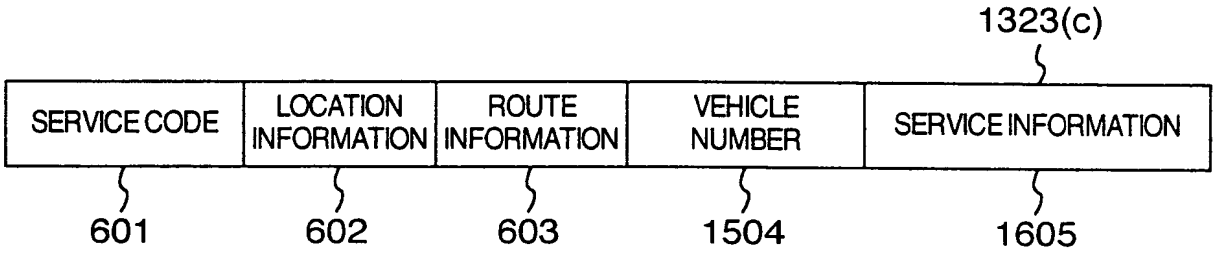


FIG.16B

RESPONSE MESSAGE 2

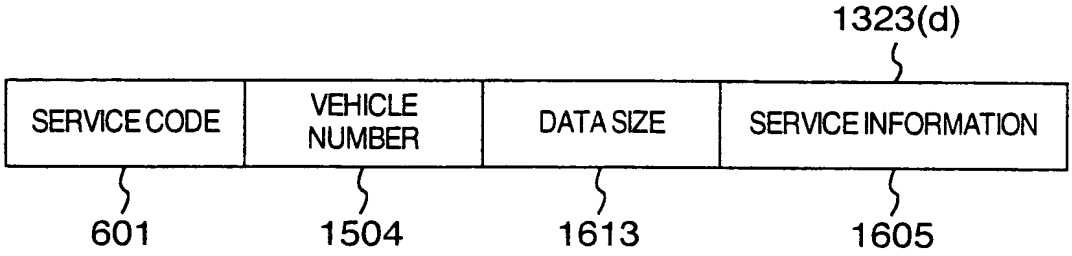
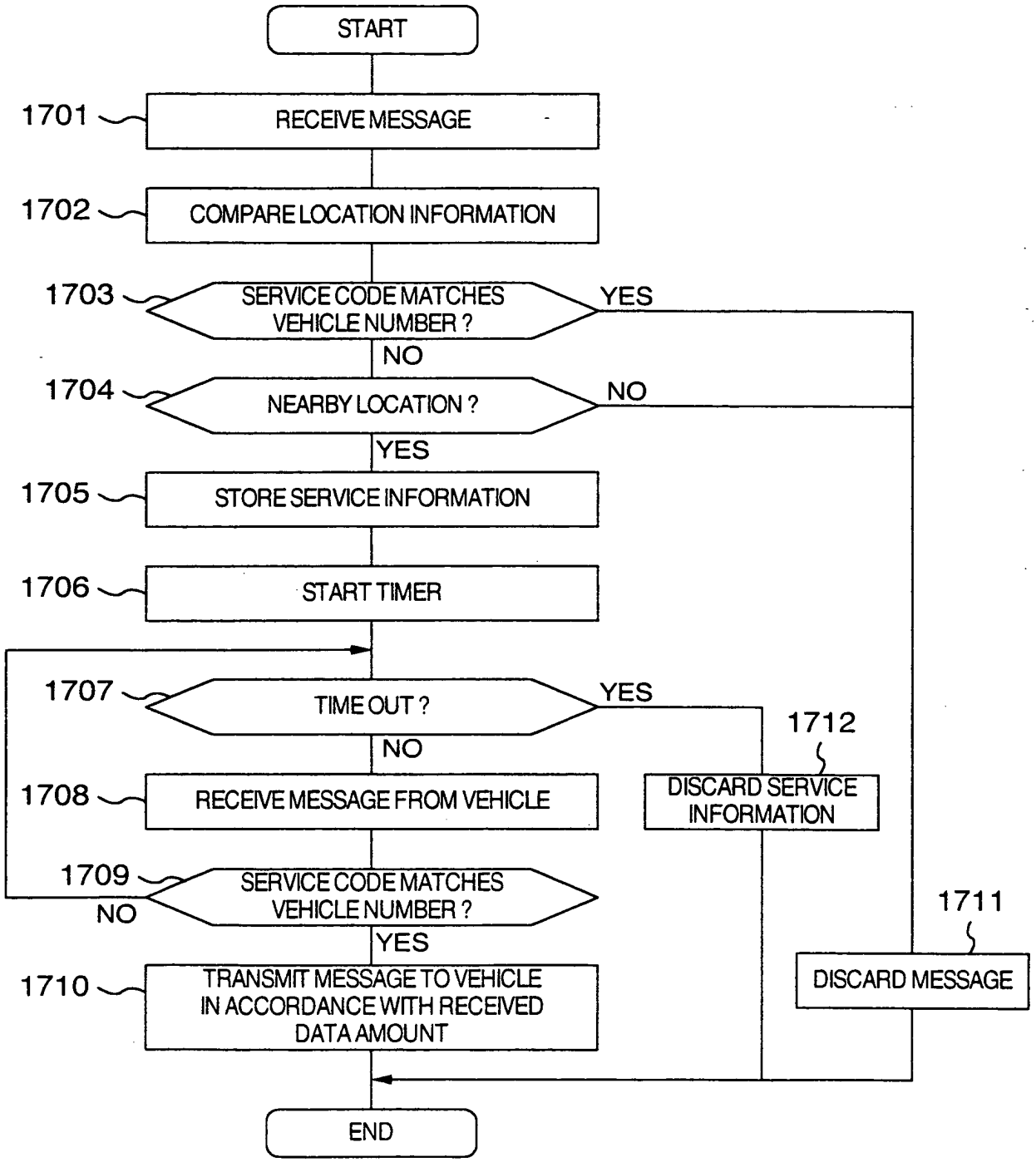


FIG.17



0055450-0055450

FIG.18

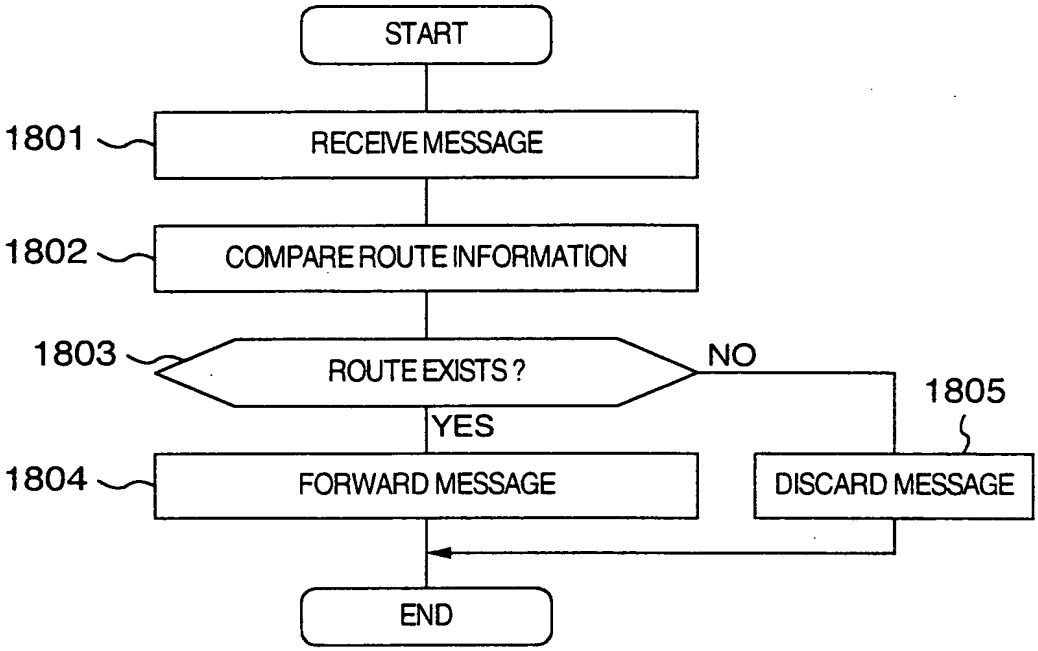

START
1801
RECEIVE MESSAGE
1802
COMPARE ROUTE INFORMATION
1803
ROUTE EXISTS ?
NO
1805
YES
1804
FORWARD MESSAGE
DISCARD MESSAGE
END

FIG.19

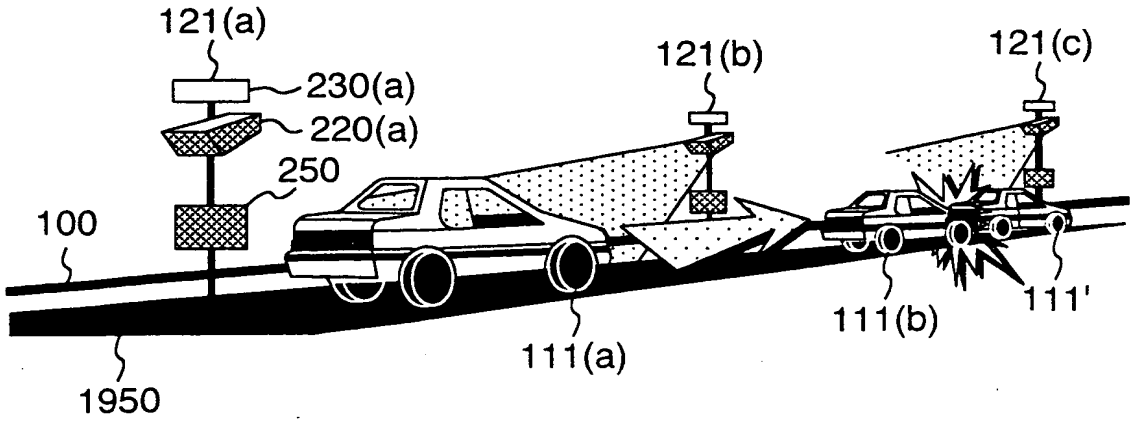

121(a)
230(a)
220(a)
250
100
1950
121(b)
111(a)
121(c)
111(b)
111'

FIG.20

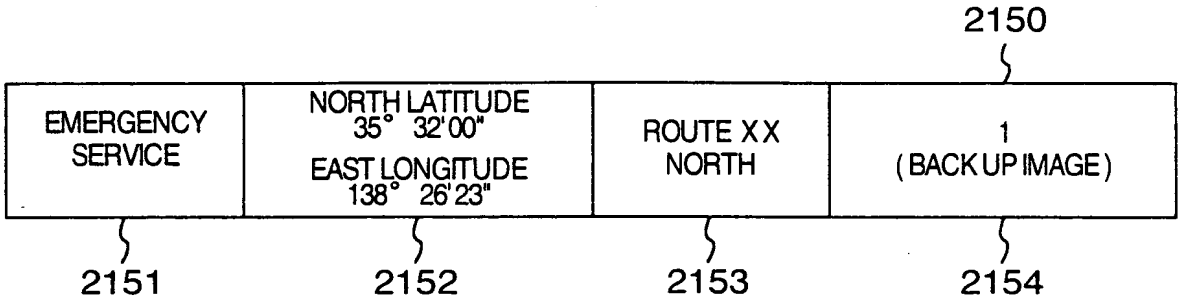


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FIG.21

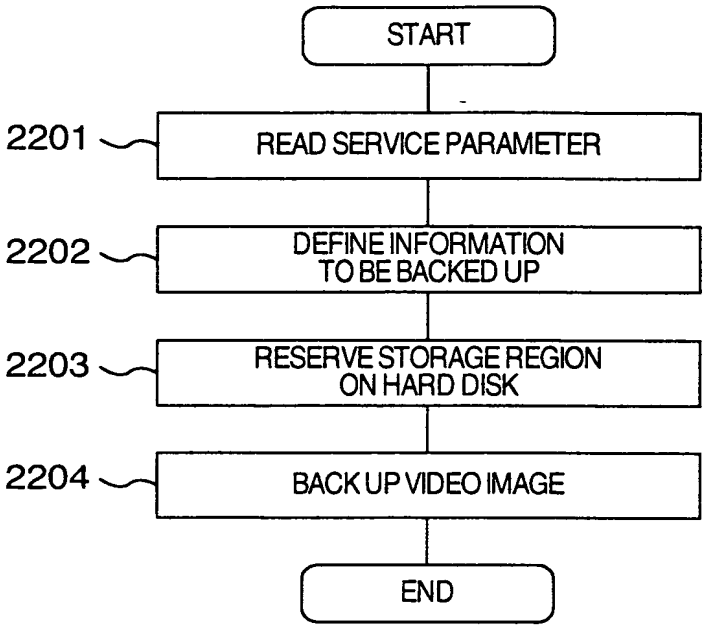

FIG.22A FIG.22B FIG.22C

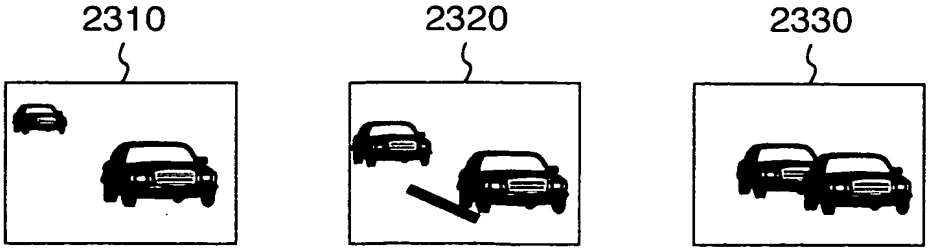

FIG.23

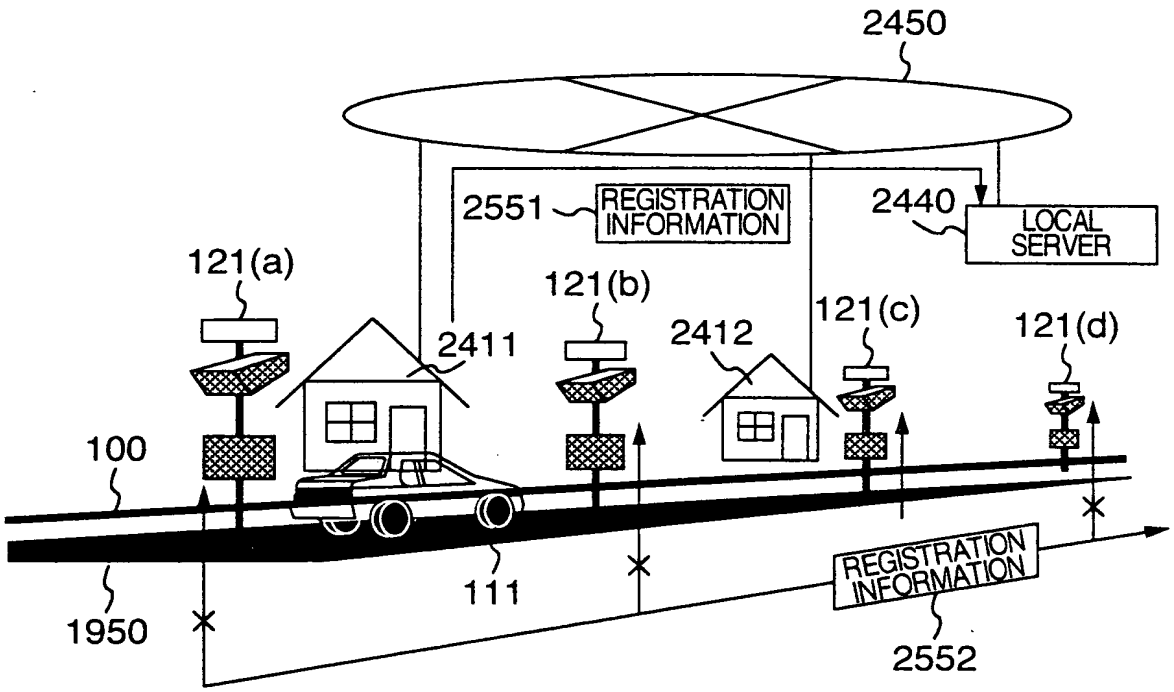
2450
2551
REGISTRATION INFORMATION
2440
LOCAL SERVER
121(a)
121(b)
121(c)
121(d)
2411
2412
100
111
1950
REGISTRATION INFORMATION
2552

FIG.24

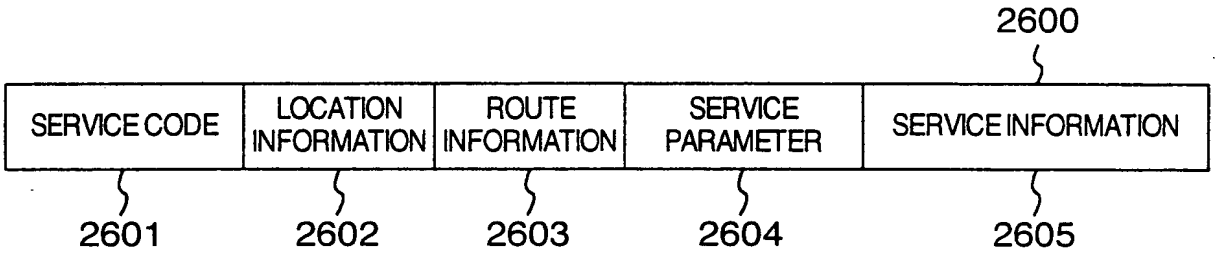

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FIG.25A

REQUEST MESSAGE

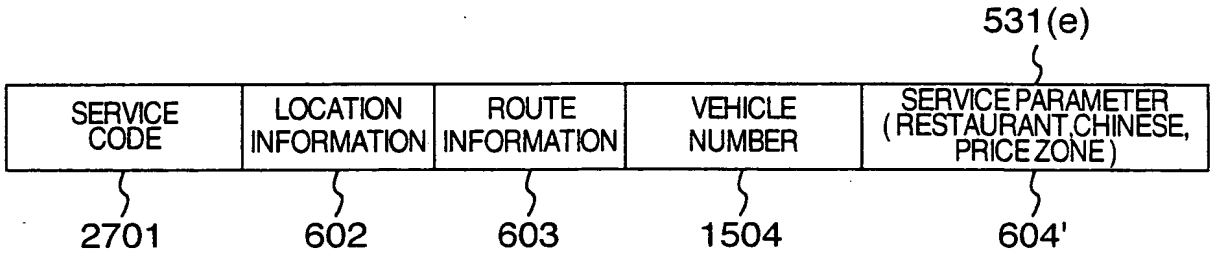

FIG.25B

RESPONCE MESSAGE

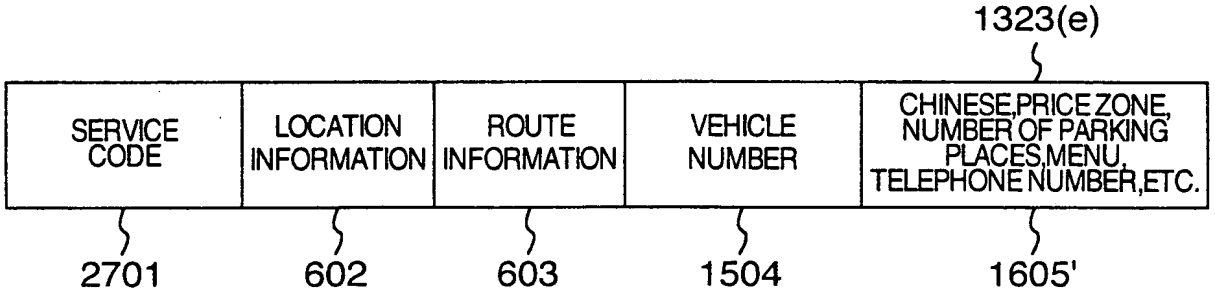

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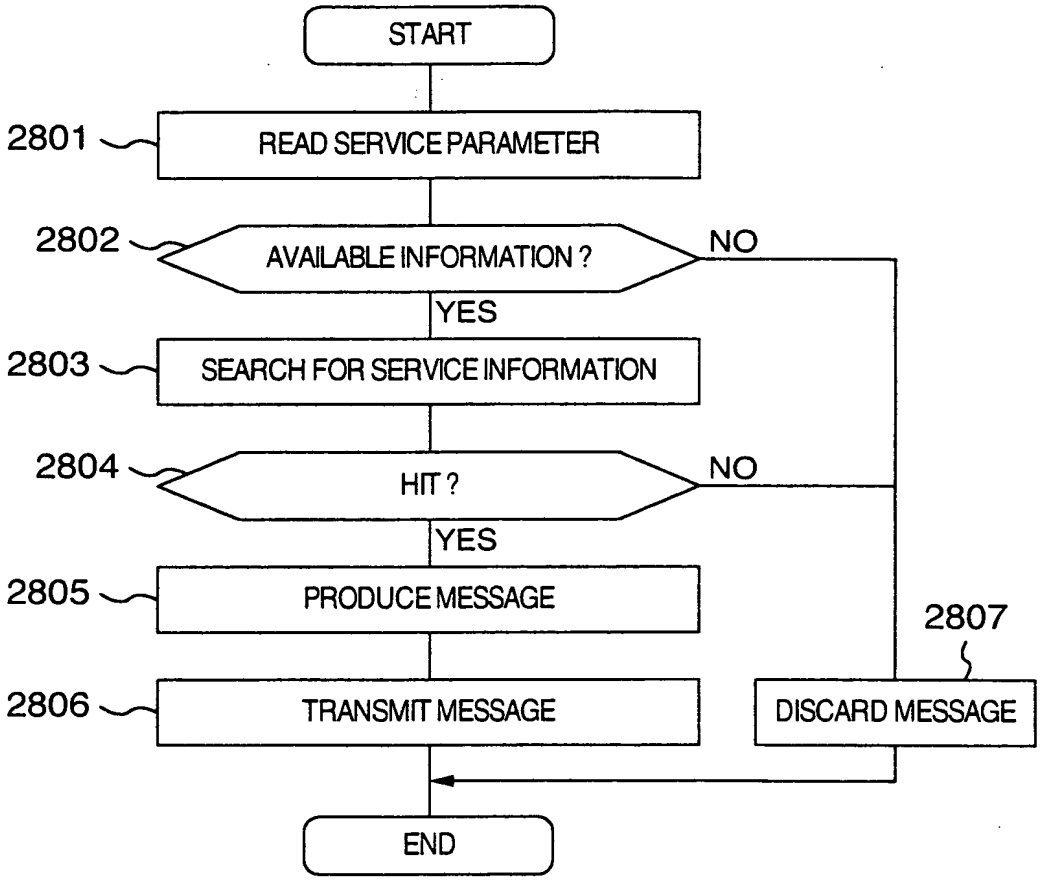
FIG.26


START
2801
READ SERVICE PARAMETER
2802
AVAILABLE INFORMATION ?
NO
YES
2803
SEARCH FOR SERVICE INFORMATION
2804
HIT ?
NO
YES
2805
PRODUCE MESSAGE
2807
2806
TRANSMIT MESSAGE
DISCARD MESSAGE
END